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REMARKS

An Abstract is attached hereto on a separate sheet.

Reconsideration of the rejection of claims 1-7 under 35 USC §112, second paragraph, is respectfully requested in light of the amendments to the claims, wherein the examiner's concerns have been addressed. With respect to claim 7, it is submitted that a dependent claim may be of a different statutory category that the claim from which it depends. See, M.P.E.P. §608.01(n)(III). Claim 7 further limits the claim from which it depends and is believed to be a proper dependent claim.

Reconsideration of the rejection of claims 1-6 under 35 USC §102(b) as anticipated by Cox or O'Donnell and under 35 USC §103 as unpatentable over Bowes in view of Cox or O'Donnell is respectfully requested.

While flash evaporation followed by distillation may be known, for example, from Cox, the invention recited in claim 1 includes the further step of adding solvent back to the evaporator, a step that is not found in any of the art of record or even remotely suggested by any reference or combination of references. The art of record simply teaches that volatile compounds may be separated by first removing the more volatile component and then raising the temperature to remove the less volatile component. The Bowes patent is a clear example of this.

According to Bowes, ethylene glycol is separated from water by first boiling off the water (i.e., the solvent) and then by raising the temperature to boil off the ethylene glycol (i.e., the target). This method requires the ethylene glycol to be heated to at or above its boiling temperature, which often degrades the compound to such a degree that it is not usable. According to Bowes, the degradation caused by higher temperatures is reduced or perhaps avoided by evaporating the ethylene glycol at reduced pressure. This process, however, requires expensive vacuum equipment, which adds cost and necessitates additional maintenance.

According to the claimed invention, the mixture of target and solvent is first flashed off at a temperature *below* the boiling point of the target. In contrast, Bowes teaches the opposite and effectively teaches away from the invention because it

requires the ethylene glycol to be boiled (see column 5, lines 23 *et seq.*). Thus, the process according to the invention requires the multi-component vapor containing the target and the solvent to be obtained at a temperature below the boiling point of the target, which is a clear distinction from Bowes. Then, according to the invention, the solvent is added back to the evaporator to ensure that the temperature of the evaporator remains below the boiling point of the target. Bowes has not even a remote suggestion of such a step.

The Cox patent is similarly distinct from the claimed invention. According to Cox, the first step is to add an alkali metal hydroxide to render the impurities non-volatile and then to flash evaporate all of the ethylene glycol to be recovered. The remaining heavy glycol and solids are then simply incinerated. Nowhere does Cox teach that the temperature of the glycol during evaporation is to be below the boiling point of the glycol. Instead it appears that the temperature of the glycol must be above the boiling point of the glycol because all of the glycol is evaporated. Thus, the temperature of the evaporator 15 must be raised to the boiling point of the glycol.

Again, a significant feature of the invention is the addition of solvent to the evaporator, which maintains the temperature of the evaporator below the boiling point of the target. Cox has no such concept.

O'Donnell contains similar teachings. Acetone is removed in the acetone recovery column 11, and cumene is recovered in the cumene recovery column 14, which must require the columns 11 and 13 to be operated at the respective boiling temperatures of acetone and cumene. Nothing in this patent suggests the addition of a solvent back to the evaporator such that the temperature of the evaporator is maintained below the boiling point of the target compound.

While the Office Action does not explain the proposed combination sufficiently to respond in detail, it is submitted that the references would not have led one of ordinary skill in the art to the claimed invention, for the reasons set forth above. Thus, it is submitted that this application is in condition for allowance, and an early indication thereof is respectfully requested.

All necessary extensions of time are hereby requested. Please charge any deficiency and credit any excess to deposit account 50-1088.

Respectfully submitted,
CLARK & BRODY



Conrad J. Clark
Reg. No. 30,340

Suite 250
1090 Vermont Ave., NW
Washington, D.C. 20005
202-835-1111
202-835-1755(fax)
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